**BACKGROUND**

The T cell antigen receptor (TCR) recognizes foreign antigens and translates such recognition events into intracellular signals that elicit a change in the cell from a dormant to an activated state. Much of this signaling process can be attributed to a multisubunit complex of proteins that associates directly with the TCR. This complex has been designated CD3 (cluster of differentiation 3). It is composed of five invariant polypeptide chains that associate to form three dimers: a heterodimer of γ and ε chains (γε), a heterodimer of δ and ε chains (δε) and a homodimer of two ζ chains (ζζ) or a heterodimer of ζ and η chains (ζη). The γ and ε chains are encoded by the same gene but differ in their carboxyl-terminal ends due to an alternative splicing event. The γ, ε and δ chains each contain a single copy of a conserved immunoreceptor tyrosine-based activation motif (ITAM). In contrast, the ζ chain contains three consecutive copies of the same motif. Phosphorylated ITAMs act as docking sites for protein kinases such as ZAP-70 and Syk and are also capable of regulating their kinase activity. The crystal structure of ZAP-70 SH2 domains bound to the ζ chain ITAMs has been solved.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: Cd3d (mouse) mapping to 9 A5.2.

**SOURCE**

CD3 (17A2) is a rat monoclonal antibody raised against γδ TCR-positive T-T hybridoma D11 cells of mouse origin.

**PRODUCT**

Each vial contains 200 µg IgG2b in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD3 (17A2) is available conjugated to fluorescein (sc-18843 FITC), 100 tests in 2 ml, for IF, IHC(P) and FCM.

**APPLICATIONS**

CD3 (17A2) is recommended for detection of CD3 of mouse origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for CD3 siRNA (m): sc-29988, CD3 shRNA Plasmid (m): sc-29988-SH and CD3 shRNA (m) Lentiviral Particles: sc-29988-V.

Molecular Weight of CD3: 25 kDa.

Positive Controls: TK-1 whole cell lysate: sc-364798 or CTLL-2 cell lysate: sc-2242.

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**DATA**

CD3 (17A2): sc-18843. Immunofluorescence staining of methanol-fixed CTLL-2 cells showing membrane staining.

CD3 (17A2) FITC: sc-18843 FITC. FCM analysis of mouse peripheral blood leukocytes. Black line histogram represents the isotype control, normal rat IgG2b/PE: sc-2873.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

See CD3 (PC3/188A): sc-20047 for CD3 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.